Journal of Accounting and Management 2019, vol.: 09; no.: 01; page 15 - 30

Preliminary paper
UDK: 65.012
Paper Received: 10/07/2018
Paper Accepted: 21/08/2018

UNCERTAINTY AND RISK MANAGEMENT: POST-CRISES CHANGES IN ATTITUDES OF HUNGARIAN SMES

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ABSTRACT

Managing strategic objectives and goals for the future together with risks and uncertainties represents an increasing business challenge. Managing uncertainty is among the core deliverable of supply chain practice by managing risk, cost and lead-time while balancing it with the customer's needs. Beside supply, uncertainties influence all related functions of the company as well stating from innovation all the way to the final financial results. It is inevitable to examine what capabilities an organization has on the strategic and organization management level to be able to stay focused on the company objectives in the turbulently changing external and internal environment.

Our research objective is to identify what specific internal strategic, organizational and operational management changes took place as a result of the extreme external challenges of the 2008-2010 crises. The base research framework was developed by Syrett and Devine (2012) whose methodology was used in the Hungarian business environment to understand the local features of the business approaches to uncertainty management before and after the crises years. We found that Hungary companies put more focus on managing a short term challenges rather than prioritizing the mid- and long term views. Emphasizing strategic and people aspects of business management in the post-crises times still have significant improvement opportunities. Hungarian companies were less flexible in reducing staff during and after

the crisis times. Besides, firms consider the political factors critical to their success of managing uncertainty.

Key words: *SME, risk management, factors of uncertainty.*

1. INTRODUCTION

Managing anticipations and business expectation for the future together with uncertainties represents a complex business challenge. Uncertainty is interpreted as a lack of knowledge or information when a decision needs to be made (Duncan 1972, Lawrence – Lorsch 1967). Uncertainty is also viewed as a result of "unpredictability (Cyert – March 1963), environmental turbulence (Emery – Trist 1965), and the complexity of influential variables (Galbraith 1973)" (In Jabnoun – Khalifah – Yusuf 2003. 17). Concerning the operations of the management area, the literature differentiates response driven and anticipation driven models (Bowersox – Closs – Cooper, 2009). However, dependent upon the forecast accuracy, the level of customization capability and needs and of course the value of the product and inventory, an appropriately matching operational model is required which might be between the two extreme polar. So managing uncertainty is among the core deliverable of supply chain practice by managing risk, cost and lead-time while balancing it with the customer's tolerance to wait for the product supply. However, uncertainties are not only influencing supply chain management concerning product-, service- and information flow, but all related functions of the company as well. Therefore it is inevitable to examine what capabilities an organization as a whole has on the strategic and organizational level to be able to stay focused on the company objectives, while being agile to manage increasing uncertainties and risks linked to future.

This paper reviews the different approaches of defining uncertainty and risk in the literature. In the next chapters the overview places specific emphasis on understanding the external and internal factors of uncertainty. In the empirical research, the objective is to look for insights to understand what specific internal strategic, organizational and operational management changes took place as a result of external challenges of the 2008-2010 crises. The base research framework was developed by Syrett and Devine (2012) who tested these questions by surveying and interviewing international companies. Using their research methodology, the Hungarian business atmosphere is being polled to understand the local features of the Hungarian business approaches to uncertainty management before and after the crises years.

2. LITERATURE REVIEW

Different definitions and understandings exist for risk and uncertainty in the literature. First we review the economic interpretations which are followed by the business related view of these terms. In a business setting, risk and uncertainty can be featured by external and internal factors. Therefore we will discuss these aspects in details in order to develop a solid base for the empirical research which addresses how companies internally respond to major external uncertainties.

2.1. ECONOMIC INTERPRETATIONS OF RISK AND UNCERTAINTY

Knight (1921) who belong to the neoclassical Chicago school of economics, became famous for differentiating risks from uncertainty. He defined risk as those situations where the outcomes were not known, but a set of probability was possible to assign to the categories of outcomes. For uncertainty he states that not only the probability distribution, but also the classification of the outcomes are not known, He believes that these categories with assignable probabilities can be developed for risks, but not for uncertainty. "The distinction between risk and uncertainty arises not because there is no basis for assigning probabilities, but because "there is no valid basis of any kind for classifying instances" (Langlois – Cosgel 1993. 456.) Within the organization, judgmental calls are made by the assigned leadership. "The best example of uncertainty is in connection with the exercise of judgment or the formation of those opinions as to the future course of events, which opinions (and not scientific knowledge) actually guide most of our conduct" (Knight 1921. 233). Davidson's (1994. 17) describes, "the economic system is moving through calendar time from an irrevocable past to an uncertain and statistically unpredictable future. Past and present market data do not necessarily provide correct signals regarding future outcomes. This means, in the language of statisticians, that economic data are not necessarily generated by an ergodic stochastic process" (In Janeway 2006). Uncertainty is often referred to as a state of mind when there is a lack of knowledge, but it can be driven by several reasons on an individual level. From a personal perception point of view there is an external and internal attribution of uncertainty (Kahneman – Tversky 1982). The external attribution of uncertainty is an outcome of coincidental events which are not under our own control. While the internal one presents a situation when the individual lacks sufficient knowledge, but this is still controllable by a coping strategy in which the needed information is to be gained from the relevant sources (Volz – Schubotz – Cramon 2003).

2.2. BUSINESS INTERPRETATIONS OF RISK AND UNCERTAINTY

Businesses face challenges of risk and uncertainty on tactical, operational and strategic levels. Norman Marks (2015) builds on risk and uncertainty definitions from International Organization for Standardization (ISO) and other institutions when interpreting risk management. ISO defines the relationship between uncertainty and risk in the Risk management Principles and guidelines standards in the following way: "Organizations of all types and sizes face internal and external factors and influences that make it uncertain whether and when they will achieve their objectives. The effect this uncertainty has on an organization's objectives is "risk".[1] COSCO, which is the Committee of Sponsoring Organizations of the Treadway Commission representing five private sector organizations, aims to provide enterprise risk management with frameworks and guidelines, and highlights uncertainty in a business sense in the following way. „All entities face uncertainty, and the challenge for management is to determine how much uncertainty to accept as it strives to grow stakeholder value. Uncertainty presents both risk and opportunity, with the potential to erode or enhance value. Enterprise risk management enables management to effectively deal with uncertainty and associated risk and opportunity, enhancing the capacity to build value."[2] When looking at the business interpretation of risk and uncertainty, there is a striking need to differentiate the source of uncertainty factors. Uncertainty can come from both the external environment and the organization's internal operations.

2.3. EXTERNAL FACTORS OF UNCERTAINTY

Many scientists list the key important external factors of the environment. When running a SWOT analysis or building a strategy, external factors play a key role. In the literature there are various ways to group and categorize external uncertainties. Fahey and Narayanan (1986) determined 4 key dimensions of uncertainty such as (1) Macro-environmental uncertainty; (2) Competitive uncertainty; (3) Market and demand uncertainty; (4) Technology uncertainty. These categories provide broad groups which have direct impacts on organizations. The intensity of globalization forced internationally active companies to fine-tune the way external uncertainties are examined. As a response to that, the UK Government Office for Science (2010) specifically focused on elements which drive uncertainty. They identified 11 areas which carry a well-founded base. The following directions were identified in their studies as potential ex-

[1] ISO 31000:2009 Risk management — Principles and guidelines. Accessed on Aug 10th 2015. *https://www.iso.org/obp/ui/#iso:std:iso:31000:ed-1:v1:en*. Introduction section p1.

[2] Enterprise Risk Management — Integrated Framework. Accessed on Aug 10th 2015. *http://www.coso.org/documents/coso_erm_executivesummary.pdf*. Executive summary p1.

ternal elements driving different uncertainties: (1) Balance of Power and Governance Architecture; (2) Economic Integration, Governance and Models; (3) Security and Conflict; (4) Science, Technology and Innovation; (5) Education and Skills; (6) Communities and communities; (7) Demographics and Migration; (8) Health and Wellbeing; (9) Climate Change; (10) Natural Resources and (11) Values and Beliefs. In this work they thoroughly define each dimension giving the bipolar extremes as examples; adding the interrelationship with other dimensions meanwhile defining the elements which play a key factor regarding the international environment. These dimensions can be interpreted not only on macro level, but also from the real economy's point of view identifying potential future unknown factors for the companies.

2.4. INTERNAL FACTORS OF UNCERTAINTY

Clampitt and Williams (2000) conceptualized on how to manage organizational uncertainty. As an outcome of their work they developed Uncertainty Management Matrix, which they consider as a tool providing researchers and practitioners with a validated tool to categorize and scale uncertainties. In their research review they defined that „uncertainty is the inherent state of nature" (Clampitt – Williams 2000. 3). The unexpected is a feature of our complex form of life, so all living creature need to face it. It is a question to each individual and organization unit of all forms, of what level of tolerance it accepts for uncertainty, which is not easy to measure. The level of uncertainty's tolerance can be culturally driven feature as well as indicated in Hofstede's (1984) uncertainty avoidance dimension. Clampitt and Williams also found that people are usually, but not always are motivated to reduce uncertainty, even it is a not preferred state of mind which causes cognitive dissonance. To reduce the disharmony caused by uncertainty, individuals use heuristics in many cases in order to simplify complex situation. While organizations typically try to reduce the level of environmental uncertainty, when it is acknowledged, which enables communicators to achieve a variety of conversational and persuasive objectives (Clampitt – Williams 2000). Marks (2015) outlines some specific business situations when organizations face uncertainty which are: (1) future demand for supplied products and services; (2) competitor's actions; (3) supplier's service of goods and services required to meet customer demand; (4) legislation and other agencies' action; (5) key employee retention and (6) employees' compliance to legal expectations and procedures.

He makes the following recommendation for organization to manage uncertainties successfully (Marks 2015): (1) identifying the key sources of uncertainties on the path of the organization to achieving its stated vision and objectives; (2) estimating the size of effect and the probability of the outcomes to

materialize; (3) evaluate the level and degree of risk acceptance; alternatively the steps to take to modify the risk; (4) act to modify the risk – by creating or changing controls; (5) continuously monitor the sources of uncertainty and the controls related to them in order to keep the level of risk at an acceptable intensity.

When we link the above business interpretation of risk and uncertainty to the economic view, we can clearly see the materialization of risk where the categorization can be identified with an estimated probability of occurrence, which enables business to introduce a process – one example above- to manage their activities and processes in light of the impact of potential risks. The part of the uncertainty interpretation which cannot be categorized and cannot be tagged with a probability figure - the unknown factors in Rumsfeld's interpretation (2011) – remains in the grey, unmanageable area through the organization.

2.5. MANAGING UNCERTAINTY THROUGH DIFFERENT BUSINESS MODELS

Different industries and companies develop various operational modes and models to be better prepared for manage risks and uncertainties. The two extremes of these models are generally quoted as push and pull models (Bowersox – Closs – Cooper, 2009). There is an emphasized move toward pull models which is a response to the growing amount of uncertainty (Hagel – Brown 2008, Hagel – Brown – Davison 2010). "Instead of dealing with uncertainty through tighter control, pull models do the opposite. They seek to expand the opportunity for creativity by local participants dealing with immediate needs. To exploit the opportunities created by uncertainty, pull models help people to come together and innovate in response to unanticipated events, drawing upon a growing array of highly specialized and distributed resources." (Hagel – Brown 2008. 93).

Pull and push are the two extreme points. But between them, many models are differentiated. One example is Jeffrey Schutt's approach (2004) who looks at the models from the inventory management's point of view as well. In his two classical push types of models, Finished Goods Inventory is kept at either close to the customer or in a central warehouse. The two push models are only different in the logistics postponement element. The Configure or Assemble or Make to order models are among the most quoted pull models in which the level of customization are the most distinguishing factor. Schutt adds the Engineer to order type of model, where the product itself has such a unique feature which requires engineering either on the product or on the process side. The list is completed with the single production or project type

of supply, which happens in a single time with no repetition and no inventory at all (Schutt 2004). Schutt's models are applicable where physical and tangible product supply takes place. The globalization and internationalization of companies, supply and customers are all fueled by the technology advancement. It allowed not only a great expansion of products, but significantly boosted the service industry as well, where tremendous competition takes place to meet customers' and clients' demand a highly customized and personalized way, which makes the process of meeting demand not only complex and sophisticated, but also increases its uncertainty.

3. UNCERTAINITY AND RISK DRIVEN ATTITUDE CHANGES OF HUNGARIAN SMES

In the empirical research the primary objective was to understand how SMEs in Hungary viewed their own uncertainty and risk impact on their operation. The Hungarian business atmosphere is being polled to understand the local features of the Hungarian business approaches to uncertainty management before and after the crises years.It is also examined what impact the crises put on their anticipation on where risks are to be expected from the external environment considering the level of uncertainty each factor plays and the size of the impact for the businesses.

3.1. METHODOLOGY AND DATA

The questionnaire contains section A for questions concerning the responders view on the financial crises anticipations and actions; while section B focus is future related uncertainty and risk management items. The structure of the questionnaire is following Syrett's and Devine's (2012) presentation which is originally in English. The questionnaire was presented in Hungarian to the responders. The questionnaire was sent out to 500 small and medium size enterprises in Hungary to management team members during January 2017 out of which 283 was considered as full valid response in the analysis. The responders were requested to be competent decision makers including chief and deputy financial officers, functional senior manager or the owner him or herself. 31% of the responders is female. 76% of the responders fall into the 31-60 age category. 22% of the responders belong to the goods supply, while the rest belong to the service industry. 75% of the respondents works for limited liability companies; 24% of the respondents represented limited partnerships. 84% of the companies considered themselves to be in growth or matured company life cycle phase; 12% sees themselves as declining and 4% as start-up companies. 33% of the companies have a central location at

Budapest; the rest of the companies is located in other Hungarian cities, towns and municipalities. The geographical spread is the following: 18% south; 16% north; 8% west and 58% in the central part of the country. 88% of the examined companies had positive financial results in the previous closed year. 79% of the companies considers themselves financially achieving mostly or continuously increasing results.

3.2. DISCUSSION OF RESULTS

In the first part of the questionnaire the focus was on evaluating the evaluations uncertainty management strategies applied during the 2008-2010 financial and economic crises. Respondents were asked to evaluate their management board awareness of the financial crisis impact on the business and whether the crises was viewed an opportunity to advance rather or a threat to the operation (Table 1).

Table 1. Awareness (A1) and Impact (A2) of the financial crisis on SMEs

	N	Minimum	Maximum	Mean	Std. Deviation
A1	235	1	6	1,84	1,240
A2	234	1	6	4,20	1,669
Valid N (listwise)	234				

Source: own data

Here only those companies were included which were established prior to 2008. On a 6 Likert-scale, the companies strongly acknowledged that the financial crises would have an impact on their operations; they anticipated the crises to be more a threat on their operations rather than an opportunity based on the evaluation of the means.

When considering the lifecycle stages of the responding companies, there was no significant difference among the company groups considering the crises as a threat for the operation based on the one-way Anova test. However there was a different perception of the on the importance of the impact awareness (Table 2.) indicated by the level of significance which called for further analysis.

Table 2. Awareness (A1) and Impact (A2) of the financial crisis on SMEs in different lifecycle stages

		Sum of Squares	df	Mean Square	F	Sig.
A1	Btwn Groups	12,182	3	4,061	2,687	,047
	Within Groups	347,647	230	1,512		
	Total	359,829	233			

A2	Btwn Groups	10,417	3	3,472	1,248	,293
	Within Groups	637,103	229	2,782		
	Total	647,519	232			

Source: own data

Newer companies in start-up phase where much more ambitious on underestimating the impact of the crises compared to the rest of the groups (Table 3).

Table 3. Awareness (A1) of the financial crisis on SMEs in different lifecycle stages

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
start-up	5	2,80	1,924	,860	,41	5,19	1	6
growth	63	1,54	,947	,119	1,30	1,78	1	5
matured	134	1,89	1,212	,105	1,68	2,10	1	6
decline	32	2,06	1,625	,287	1,48	2,65	1	6
total	234	*1,84*	*1,243*	*,081*	*1,68*	*2,00*	*1*	*6*

Source: own data

Concerning the companies responses to the crises, we asked them about whether the company made necessary decisions quickly and ahead of unfolding events (A3); and if they had a well developed approach to managing uncertainty and planning strategies to deal with the unexpected within our business (A4). Reviewing the mean of the responses, there is less of a straight forward view as the answers are more toward to the mid-point of the scale (Table 4). The start-up and the declining group created a significant difference here as well by declaring a less of a readiness of quick decisions and planned strategies to manage the events brought by the crises.

Table 4. Quick decisions (A3) and Planned strategies (A3) of SMEs

	N	Minimum	Maximum	Mean	Std. Deviation
A3	234	1	6	3,43	1,484
A4	234	1	6	3,63	1,587
Valid N (listwise)	234				

Source: own data

As a next step our analysis focused on the tools used by the companies to manage the crises to evaluate how much strategic versus tactical actions they

were taking during the crisis. In the B section of questionnaire we also tested of the future tools they consider to take to manage an anticipated crisis. Overall, respondents claimed that they were to put an increased level of focus on uncertainty and risk management in the future. In a scale of 1-6, an average 4.27 with a 1.6 standard deviation indicated this intention (Table 5).

Table 5. Increased level of business focus on uncertainty and risk management

	N	Min	Max	Mean	Std. Deviation
B5 focus on uncertainty & risk mgmt.	254	1	6	4,27	1,603
Valid N (listwise)	254				

Source: own data

In the B section of questionnaire we also tested of the future tools they consider to take to manage an anticipated crisis. The responses were collected on a 6 Likert scale for each activity to measure if the given tool was used/applied during the crises compared with the anticipation of the use of the same tool in the future. Simple means were used to establish a rank among the tools applied when evaluating the past even (past) or projecting out tools potentially to be used in the future (future); Paired Samples Statistics were used to compare how the perception of each tool changed each from the past application to the future anticipation. The specific activities were organized in the following groups: strategy, market operation and people (Table 6). Evaluating the overall evaluation of the past, we can conclude that most commonly used tools were Improving operational efficiencies and Cutting costs on the Operation side, and Forging stronger, closer relationships with key customers on the Market side. These were the key focus actions closely followed by Focusing on the profitable core from the Strategic elements and Installing strong leadership and governance from the People side.

Table 6. Tools applied or anticipated to be applied in uncertainty management

STRATEGY (Mean)	Focusing on the profitable core	Increasing the flexibility of strategic planning	Investing in growth	Selling businesses and/ or assets	Buying new businesses
PAST	2,36	2,81	3,45	4,68	5,19
FUTURE	**2,59 (F-R2)**	2,75	2,75	*3,88*	3,87
Sig. (2-tailed)	0,08	0,57	0,00*	0,00*	0,00*
MARKET (Mean)	Forging stronger, closer relationships with key customers	Targeting new markets and customers	Developing and redesigning innovative products, and technological development		
PAST	**2,21 (P-R2)**	2,68	3,21		
FUTURE	**2,52 21 (F-R1)**	2,64	2,72		
Sig. (2-tailed)	0,01*	0,73	0,00*		
OPERATION (Mean)	Improving operational efficiencies	Cutting costs	Reducing staff costs		
PAST	**2,07 (P-R1)**	**2,26 (P-R3)**	3,70		
FUTURE	**2,63 (F-R3)**	2,86	3,52		
Sig. (2-tailed)	0,00*	0,00*	0,15		
PEOPLE (Mean)	Installing strong leadership and governance	Helping managers to take decisions despite incomplete, confusing or contradictory data	Empowering, enabling and mobilizing staff	Building capability, recruiting and developing talent	
PAST	2,37	2,51	3,61	3,62	
FUTURE	2,81	2,78	3,13	2,91	
Sig. (2-tailed)	0,00*	0,01*	0,00*	0,00*	

Source: own data

When looking at these items, and their ranks in the specific we can state that the listed set of tools would be the same in the preference rank when applying it for the future (except Installing strong leadership and governance which falls to the second in its group); while the significant activity drops across all above mentioned key items. To be able to capture the lessons learnt from the crises, let's examine each of the group separately. *Operation* was the area in focus of actual actions the most. Although Improving operational efficiencies was the first and most important activity, its future anticipated application has changes significantly with two listed market activity surpassing it in the overall rank. Cutting costs which was the third activity in the historical rank dropped to the tenth position which indicates that short term cost cutting is not considered to be as good of an action for future uncertainty management. In this

group Reducing staff costs is considered to be less important activity which has not changed significantly for future projections. *On the Market side*, Forging stronger, closer relationships with key customers moved to the first position in the overall rank for future consideration. Targeting new markets and customers with a mean value of 2.64 is a close 4th in the overall future rank. Developing and redesigning innovative products, and technological development as an activity set has a significant change in evaluation of importance. Overall we can see that companies are looking more toward building flexibility on the market side primarily versus the operational side. Among *Strategic actions*, Focusing on the profitable core did not go through a significant reevaluation, but its importance was kept consistence which moved this action to be the second position in the rank projected for the future. Investing in growth, Selling businesses and/or assets and Buying new businesses as strategic actions improved on the importance score significantly indicating an overall importance improvement of strategic considerations for future uncertainty management. *People* as a group of activities experienced a significant change on all items. The focus on Installing strong leadership and governance moved strongly toward Helping managers to take decisions despite incomplete, confusing or contradictory data and Building capability, recruiting and developing talent. Empowering, enabling and mobilizing staff as a separate activity set is smaller in importance, but it has significantly improved compared to the evaluation of past activities. Here we can see a strong preference toward building in capabilities below leadership and governance to enable lower management levels to vitalize all human assets in uncertainty management. The dynamic changes concerning People offers an opportunity to analyze who the responding companies consider to be the key decision makers in case of a uncertain situation. The responders had an opportunity to rank the listed groups to assign a level of importance to each role. Wilcoxon Signed Ranks Test allowed us to compare how 2 variables changed in rank (Table 7), which indicated that the Functional Unit heads and the Staff had a significant change on their rank indicators.

Table 7. Change of Rank position with Wilcoxon Signed Ranks Test results

	1 or 2 very senior managers	Functional Unit heads	Staff	Strategic partners and suppliers	Other
Z	-,437b	-2,578b	-2,708b	-1,005c	-,372b
Asymp. Sig. (2-tailed)	,662	,010	,007	,315	,710
a. Wilcoxon Signed Ranks Test, b. Based on negative ranks, c. Based on positive ranks					

Source: own data

Functional Unit heads and the Staff were further analyzed with Paired Samples Test, which indicated that the importance of involvement of Functional Unit heads and Staff is seen as an important current and future factor of managing uncertainty (Table 8).

Table 8. Functional Unit heads and Staff position modification measured with Paired Samples Statistics

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig (2-tailed)
				Lower	Upper			
Pair 1 Func. Unitheads	-,146	,730	,055	-,254	-,038	-2,671	177	,008
Pair 2 Staff	-,183	,742	,066	-,313	-,052	-2,762	125	,007

Source: own data

Section B of the questionnaire oriented the responder toward focus toward the future. Among our objectives we wanted to evaluate what sources of uncertainties companies are anticipating (Table 9.). On the both aspect – uncertainty level and impact factor – the same rank can be captured. The Political areas such as governmental actions are viewed to present the highest level of uncertainty with the largest level of impact as well. We can confidently state, that fro the listed categories the Political one which business see as the main cause of uncertainty. It is followed by the Economic category as close second, with the Legal category as the third. Interesting the Technology is seen as less of a risk and impact, while n the 21st century this is the area which is changing in an extensively turbulent manner.

Table 9. Anticipated future Level of Uncertainties and Impact Rank

Uncertainty level	N	Mean	Std. Deviation	Minimum	Maximum	Mean Rank	Rank
Political	276	2,50	1,610	1	6	2,97	1
Economic	276	2,66	1,533	1	6	3,13	2
Legal	276	2,67	1,613	1	6	3,18	3
Social	276	3,08	1,757	1	6	3,51	4
Environmental	276	3,32	1,857	1	6	3,79	5
Technological	276	3,92	1,799	1	6	4,42	6
Impact	N	Mean	Std. Deviation	Minimum	Maximum	Mean Rank	Rank
Political	276	2,45	1,566	1	6	3,02	1
Economic	276	2,55	1,516	1	6	3,09	2
Legal	276	2,70	1,598	1	6	3,27	3
Social	276	3,03	1,798	1	6	3,50	4
Environmental	276	3,24	1,874	1	6	3,79	5
Technological	276	3,76	1,777	1	6	4,35	6

Source: own data

4. CONCLUSIONS

Reviewing the literature, we can found that the economist debate tales place on differentiating risk management from the uncertainty management. In the practical business environment, companies are less likely capable of separating the two terms as it is also extremely difficult to quantify the impacts of the uncertainty whether it comes in the form of a more tangible risk or a less measureable uncertainty. However, it is clear, that different sectors were not impacted in the same way during the crises. The financial sector was more vulnerable even if the crises impacted the real economy significantly as well. Reviewing the locally run empirical study, we can conclude that the sample indicates that in Hungary companies had a short term view and tools to tackle challenges have somewhat changed by putting additional focus on the strategic and people aspects of business management in the post-crises times. Hungarian companies were less intensive in reducing staff during the tough times, which keeps to be projected to be at a similar level in the future. It is evident, that companies consider the political factors critical to their success of managing uncertainty. The key research objective to identify internal strategic, organizational and operational management changes of SME's attitude to risk and uncertainty management were outlined. However, it is clearly a limitation of the study that the Hungarian results cannot be compared to with other

European companies, which can present future research opportunities. This study has not investigated risks and opportunities coming from governmental actions. The support and growth of SMEs are strategically important local policies; their influence on SME operation can be an interesting point of investigation in the future.

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